



swisscom

Easy pay COP interface
manual



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Easypay COP interface manual

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| Author | Alexander Schamne |
| Referenced documents | [1] easypay-interface-manual.pdf : Full REST Documentation for direct payments, Signing REST requests |



Change list

| Updated on | Updated by | Version | Description |
|------------|------------|---------|---|
| 06/24/2013 | A. Schamne | 3.0 | - change list inserted - changed to version 3.0 (version adopted to Easypay 3.0, to avoid misunderstandings) |
| 05/13/2014 | R. Schwarz | 3.0.1 | - added information for transaction fee (chap 1.6) |
| 08/26/2014 | K. Jordan | 3.1 | - added information for imageUrl (chap 1.3) |
| 11/17/2014 | R. Schwarz | 3.2 | - added business error code |
| 05/13/2015 | R. Schwarz | 3.3 | - corrected checkout request item JSON data - added trial (promo) information in JSON data |
| 09/14/2015 | R. Schwarz | 3.4 | - added error code on missing mandatory COP parameter - added language parameter |
| 11/30/2015 | R. Schwarz | 3.5 | - added choose protocol depending on network connection see chapter 1.1 URL |
| 03/01/2016 | R. Schwarz | 3.6 | - adapted error codes in chap 1.4.1 - added chap 1.5 Error Code Description |
| 06/27/2016 | R. Schwarz | 3.7 | - added msisdN as optional parameter for checkoutRequestItem - replaced screenshots with current examples |
| 01/30/2017 | R. Schwarz | 3.8 | - replaced error codes with link to referenced base document - updated screenshots |
| 05/16/2018 | R. Schwarz | 3.9 | Added notes to checkout request item field description |
| 10/20/2020 | K. Jordan | 3.9.1 | Removed roaming flag |
| 05/21/2021 | R. Schwarz | 3.9.2 | Updated valid IP ranges for redirect to COP through http (chapter 1.1) |
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1 Checkoutpage (Authorizepage)

This section describes the Checkoutpage (Authorizepage), which should be used in case the services are managed on content partner side.

The Authorizepage accepts two types of authorization requests:

1. One-Time charge payment (in case of non-recurrent service)
2. Subscription (in case of recurrent service)

The Authorizepage is used both for One-Time charge and for Subscription authorization. Once the Subscription authorization is accepted by the customer via Authorizepage, the content partner is allowed to renew the Subscription. The customer can cancel the Subscription authorization at any time either on Swisscom or on content partner side.

The content partner is responsible to track and manage the user purchases and track the user authentication id. The authentication id will always be generated by Swisscom, after successful Checkout Authentication request and is essential for service renewals. The relation between the consuming user with an active subscription and the authentication id have to be assured by the content partner.

If the content partner wants to offer first (trial, or any later, i.e. for happy-hour) period of subscription for free or reduced price, it is possible to send additional optional JSON attribute “promotionAmount” (see below).

Note: The promotionAmount will NOT be shown on the Checkoutpage, the content partner is responsible to mention the trial or promo reduced amount in the “description” JSON attribute (see below).

1.1 URL

`$(BASE_URL)/charging-engine-checkout/authorize.jsf?signature=xyz&checkoutRequestItem=xyz`

The `$(BASE_URL)` is one of:

STAGING: `$(protocol)//easypay-staging.swisscom.ch`

PRODUCTION: `$(protocol)//easypay.swisscom.ch`

Depending on whether the client is connected to mobile network the http or https protocol must be used for redirection.

- ➔ In case of the client is *not* connected to mobile network (i.e. WiFi or Wlan) the redirection URL must be redirected to URL using **https** protocol.
- ➔ In case of mobile network connection, the redirection to URL must use **http** protocol; otherwise, silent authentication will not be supported.

In order to detect whether the client is connected to mobile network (use http protocol) the client source IP must be checked against the following ranges:



178.197.192.0/19
178.197.224.0/21
178.197.232.0/21

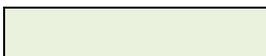
1.2 Parameters

| URL-Parameter | Description | Required | Example |
|---------------------|---|----------|-------------------------------|
| checkoutRequestItem | Base64 and URL encoded JSON content | YES | eVm[...]SW1wbCJ9 |
| signature | Base64 and URL encoded signature of the JSON content | YES | duPm2JK52GjfahVkuFfX1W5lwFBM= |

1.3 Request Item JSON model

The checkout request item is a JSON Object, containing all specific service information. This information is used to create an either One-Time charge record or Subscription Authorization charge record on Swisscom side.

Fields, which are coloured as:



are MUST fields for the Subscription authorization. These MUST NOT be send for One-Time charge.

The request item MUST be send as Base64 and URL encoded String as HTTP-GET url parameter named: checkoutRequestItem.

| Field Name | Type | Occurs | Pattern | Description | Example |
|-------------|--------|--------|--|---|-----------------|
| paymentInfo | String | 1 | (A-Za-z0-9_-){1,50} Note: The System is fail-tolerant, which means it will also accept patterns not matching the defined pattern. In such cases, the paymentInfo will be shorten and not allowed characters will be | The payment info of the service, which will be printed on the bill of the customer. | weekly_abo_news |



| | | | | | |
|-----------------|---------|------|--|---|---|
| | | | removed. | | |
| title | String | 1 | {A-Za-z0-9_-}{1,25} | Title of the content. | Online Newspaper |
| description | String | 0..1 | {Any character except: '<', '>', '&'}{1,100} | Short description of the subscription/one-time charge | Read your favourite newspaper every day everywhere! |
| merchantName | String | 0 | {A-Za-z0-9_-}{1,20} | DEPRECATED it is no longer needed to be sent, this information is now taken from configuration and displayed on checkout page (Anbieter, see screen example below) The Merchant Name e.g. Shop name, vendor name | - |
| duration | Integer | 1 | digit | The duration of the service subscription | 1 |
| durationUnit | String | 1 | Allowed values • WEEK • MONTH | The duration unit of the service subscription | WEEK |
| amount | String | 1 | Format: DDD.dd | The amount of the Service. This amount must contain any tax, such as transaction fee in case of according contract (see 1.6) | 2.25 |
| promotionAmount | String | 0..1 | See amount | Note: must NOT be negative value, if negative value is sent it will be ignored and the amount will be charged instead. If value is positive and less or equal as amount it will be charged instead of amount. | |
| isAdultContent | Boolean | 1 | true or false | Flag which marks the service as adult (true) or non adult (false). This means that the customer will be checked, if he/she is allowed to consume adult content. | false |



| | | | | | |
|------------------|--------|------|----------------------|--|---|
| merchantId | String | 1 | (A-Z0-9){5} | The merchant id given by Swisscom. | CH |
| successUrl | URL | 1 | Standard URL-Pattern | The success back URL, which will be called, if the user proceed the authorization request on the COP with success. | http://my.shop.com/home.jsf?uid=43c2&sid=dc0d&purchase=success |
| cancelUrl | URL | 1 | Standard URL-Pattern | The cancel URL, which will be called, if the user cancels the authorization request on the COP. | http://my.shop.com/home.jsf?uid=43c2&sid=dc0d&purchase=cancel |
| errorUrl | URL | 1 | Standard URL-Pattern | The error URL, which will be called, if some error/problem occur during the authorization process on the COP. | http://my.shop.com/home.jsf?uid=43c2&sid=dc0d&purchase=error |
| cpServiceId | String | 0..1 | String | The service Id on content partner side. This is an optional parameter. It is recommended to send it anyway, as it can be very helpful for debugging. Data provided in this field will be copied into "service" column in monthly report sent by email to partner. Note: only valid for subscriptions, for one-time charges refer to field contentType | xys-323-gh-ff |
| cpUserId | String | 0..1 | String | The unique user Id on content partner side. This is an optional parameter. It is recommended to send it anyway, as it can be very helpful for debugging. | 23hkb379oh |
| cpSubscriptionId | String | 0..1 | String | The unique subscription Id on content partner side. This is an optional parameter. It is recommended to send it anyway, as it can be very helpful for debugging. | vghv5678 |
| imageUrl | URL | 0..1 | Standard URL-Pattern | The URL of the dynamic image which will be embedded in the COP. (Special feature is needed !) | http://lorempixel.com/300/200 |



| | | | | | |
|--------------|--------|------|---------------------|---|---|
| userLanguage | String | 0..1 | de/fr/it/en | If this parameter is set it will override the browser language header for checkout page rendering. Default or fallback (if invalid String) is "en" | de |
| msisdn | String | 0..1 | (0-9){10,11} | Partner might send the end user msisdn if already know i.e. during registration process. This will allow to prefill the msisdn on the COP. Note: If a different msisdn has been detected through header enrichment in case of mobile network, this msisdn from partner will be overridden with msisdn from header enrichment. | 0791234567 |
| contentType | String | 0..1 | (A-Za-z0-9_-){1,20} | The content type of the provided content to end customer. Data provided in this field will be copied into "service" column in monthly report sent by email to partner. Note: only valid for one-time charges, for subscriptions refer to field cpServiceId | App, Music, Video, Game etc. |
| storeSource | String | 0..1 | (A-Za-z0-9_-){1,20} | The source store behind the aggregator content partner. | Store A uses the integration layer of Content partner B. The storeSource is in this case A. |

Example JSON:

```
{
  "paymentInfo": "weekly_abo_news",
  "title": "Online Newspaper",
  "description": "Read your favorite newspaper every day everywhere!",
  "duration": 1,
  "durationUnit": "WEEK",
  "amount": "2.25",
  "isAdultContent": false,
  "merchantId": "CH"
  "cancelUrl": "http://my.shop.com/home.jsf?uid=43c2&sid=dc0d&purchase=cancel",
  "errorUrl": "http://my.shop.com/home.jsf?uid=43c2&sid=dc0d&purchase=error",
  "successUrl": "http://my.shop.com/home.jsf?uid=43c2&sid=dc0d&purchase=success",
}
```



```

"cpServiceId": "xys-323-gh-ff",
"cpSubscriptionId": "23hkb379oh",
"cpUserId": "vghv5678",
"imageUrl": "http://lorempixel.com/300/200",
"contentType": "App"
"storeSource": "Game-City"
}

```

1.4 Response

1.4.1 URLs

There are three different cases of response:

| Response | Description |
|----------------|--|
| Success | <p>The user was authorized for the requested amount. In this case, the COP will redirect to successUrl, given by content partner within the JSON request object. Additionally, it will contain one more URL parameter:</p> <ul style="list-style-type: none"> paymentId: Is returned in case of One-Time Charge (non recurrent service) <p>OR</p> <ul style="list-style-type: none"> authSubscriptionId: Is returned in case of Authorize Subscription (recurrent service) <p>This is the first phase of two-phase payment. Content partner via REST API, to complete the purchase, MUST commit the paymentId or authSubscriptionId.</p> <p>paymentId is committed via (see: Easypay interface manual for details):</p> <p style="padding-left: 40px;">Direct Payment: \$BASE_URL/payments/{authTransactionId}</p> <p>authSubscriptionId is committed via (see: Easypay interface manual for details):</p> <p style="padding-left: 40px;">Authorization Subscription: \$BASE_URL/authsubscriptions/{authSubscriptionId}</p> |
| Error | <p>The user could not be authorized, because of some error. In this case, the COP will render an internationalized human readable error message and after 10 sec timeout, the COP will redirect to returnUrl, given by content partner within the JSON request object. The error code will be send via additional URL parameter error. It can contain following error codes:</p> <p>Please refer to Error Code list in referenced document in Section 7 in [1].</p> |
| Cancel | <p>The user cancels the purchase on the Authorizepage. In this case, the COP will redirect to returnUrl, given by content partner within the JSON request object.</p> |

1.4.2 Mapping of paymentId and authSubscriptionId



The content partner is allowed to provide any success/cancel/error URL with any URL parameters. The Authorizepage just appends the paymentId or authSubscriptionId to the URL. which was given within the JSON request of content partner.

Example:

```
http://my.shop.com/home.jsf?uid=43c2&sid=dc0d&purchase=success&authSubscriptionId=kfhfg-34ft
```

In this example the **uid**, given within the error-/cancel-/successUrl, represents the unique “user id” on the content partner side. The same for the **sid**, which represents the “service id” on content partner side. The “**authSubscriptionId**” represents the “Authorize Subscription id” on Swisscom side. The uid and the sid MUST be mapped to authSubscriptionId on content partner side. The authSubscriptionId must be used for subscription renewal or cancelation requests.

1.5 Signature

The Signature is calculated on the JSON request item with the signature key and MUST always be sent with the request item. Swisscom provides the signature key. Swisscom will calculate the signature for the received JSON request and compare it against the signature sent by content partner. In case the signature does not match, the requests will be rejected.

The signature MUST be send as Base64 and URL encoded String as HTTP-GET URL parameter named: signature.

The Signature is the Base64 encoded HMAC-SHA1 (as defined in RFC2104) generated HashString. In Pseudo-Code: Signature $s = \text{base64Encode}(\text{hmacSha1}(\text{secretKey}, \text{utf8Encode}(\text{HashString})))$;

1.5.1 Java Example

```
String signature = new String(Base64.encodeBase64(sign(jsonString, secretKey, Algorithm.HmacSHA1)));  
  
public byte[] sign(String data, String key, Algorithm algorithm)  
    throws SignatureException {  
    try {  
        return sign(data.getBytes(Constants.DEFAULT_ENCODING),  
                    key.getBytes(Constants.DEFAULT_ENCODING), algorithm);  
    } catch (UnsupportedEncodingException e) {  
        throw new SignatureException("Unable to calculate a request signature: " + e.getMessage(), e);  
    }  
}  
  
private byte[] sign(byte[] data, byte[] key, Algorithm algorithm) throws SignatureException {  
    try {  
        Mac mac = Mac.getInstance(algorithm.toString());  
        mac.init(new SecretKeySpec(key, algorithm.toString()));  
        return mac.doFinal(data);  
    } catch (Exception e) {  
        throw new SignatureException("Unable to calculate a request signature: " + e.getMessage(), e);  
    }  
}
```

Example:



 **swisscom**

Bezahlung bestätigen

Bitte geben Sie den SMS Code ein. Mit anschliessender Bestätigung durch Klicken auf «Kaufen» erklären Sie gegenüber Swisscom Ihr Einverständnis zur Belastung durch Test-Partner für CHF 1.20 auf Ihre Natel[®] Rechnung 079

CHF 1.20

Kaufen

Abbrechen

Mobile Payment

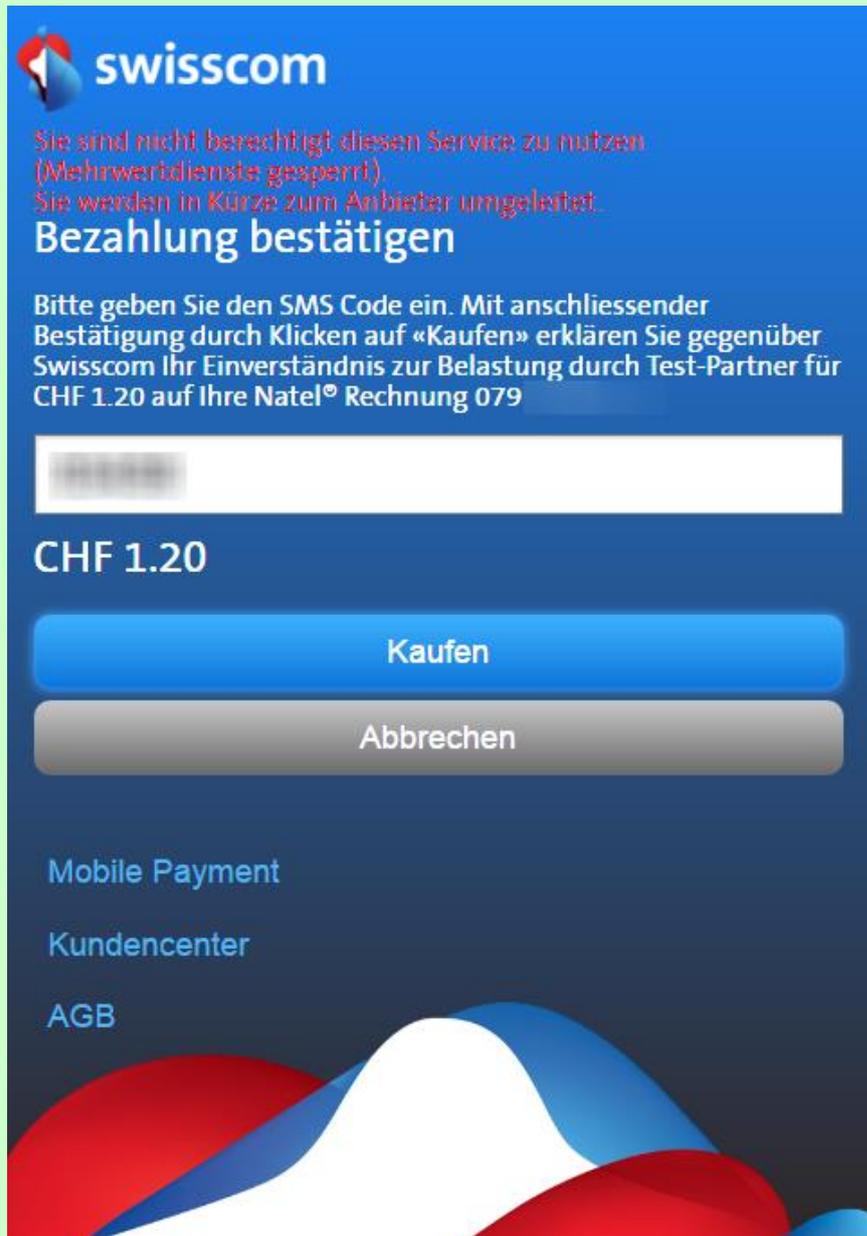
Kundencenter

AGB

In case of success, the COP will redirect to success page:
<http://my.shop.com/home.jsf?uid=43c2&sid=dc0d&purchase=success&paymentId=xyz>

Example Error Authorizepage:

Response :



swisscom

Sie sind nicht berechtigt diesen Service zu nutzen
(Mehrwertdienste gesperrt).
Sie werden in Kürze zum Anbieter umgeleitet.

Bezahlung bestätigen

Bitte geben Sie den SMS Code ein. Mit anschliessender Bestätigung durch Klicken auf «Kaufen» erklären Sie gegenüber Swisscom Ihr Einverständnis zur Belastung durch Test-Partner für CHF 1.20 auf Ihre Natel[®] Rechnung 079

CHF 1.20

Kaufen

Abbrechen

Mobile Payment

Kundencenter

AGB

In case of such error, the COP will redirect to error page:

[http://my.shop.com/home.jsf?uid=43c2&sid=dc0d&purchase=error&error=CE NOT AUTHORIZED
BLOCKED VAS NOT ALLOWED](http://my.shop.com/home.jsf?uid=43c2&sid=dc0d&purchase=error&error=CE_NOT_AUTHORIZED_BLOCKED_VAS_NOT_ALLOWED)



1.6 Transaction Fee

If the One-Time charge payment will be charged with extra transaction fee (special condition in business contract), the "amount" in the Request Item JSON (see 1.3) must contain the transaction fee.

Example:

Shopping cart total amount is 50.00 CHF, and the transaction fee according to contract is 1 CHF, the merchant shall send 51.00 CHF as "amount" in the Checkout Request Item (see 1.3).